ABSTRACT

DISSERTATION TITLE:

STUDY OF MALONDIALDEHYDE AND GLUTATHIONE PEROXIDASE IN BLOOD AND SALIVA OF ORAL CANCER PATIENTS

AIM:

To estimate the levels of Malondialdehyde (MDA) and Glutathione peroxidase (GPx) in both blood and saliva of oral squamous cell carcinoma (OSCC) patients.

MATERIALS AND METHODS:

The present study was conducted in 25 newly diagnosed histopathologically confirmed cases of OSCC and 25 healthy controls. Blood and saliva samples were collected from all the subjects in study and control group and analysed for MDA by thiobarbituric acid method using spectrophotometry and GPx using Ransel antioxidant enzyme kit.

STATISTICAL ANALYSIS:

Appropriate statistical tests like T test, Pearson correlation coefficient test and ROC analysis were done.

RESULTS:

The study showed increased MDA and decreased GPx levels in blood and saliva of OSCC patients. A highly significant strong positive correlation was observed between blood and salivary levels of GPx, and also in MDA of OSCC subjects. A highly significant strong negative correlation was observed between GPx and MDA levels in blood and also in saliva of OSCC subjects. Sensitivity and specificity was found to be 100% for GPx and MDA in both blood and saliva of OSCC subjects.

CONCLUSION:

Our study findings reemphasized the role of ROS in oral carcinogenesis. Saliva is a valid, convenient and an equally reliable diagnostic biofluid as blood for measuring

biomarkers of antioxidants and oxidative stress. MDA and GPx can be considered as potential biomarkers for assessing oxidative stress and antioxidant status in OSCC.

KEY WORDS: Malondialdehyde, Glutathione peroxidase, blood, serum, saliva, oral cancer, oral squamous cell carcinoma